

MONOLITHIC SILICON EUV COLLECTOR

ABSTRACT OF THE DISCLOSURE

A collector optic assembly for a EUV radiation source. The collector optic assembly includes an elliptical meniscus having a reflective Si/Mo coating for collecting and reflecting EUV radiation generated by the source. The meniscus is machined from a single piece of silicon. The collector optic assembly further includes a heat exchanger that includes cooling channels through which flows a liquid coolant. The heat exchanger is fabricated from a plurality of machined silicon sections fused together by a glass frit bonding process. The meniscus is fused to a front side of the heat exchanger by a glass frit bonding process. A liquid coolant inlet manifold and a liquid coolant outlet manifold are also each machined from a single silicon block and are mounted to a back side of the heat exchanger.